WHAT IS CLAIMED IS:

1. An abrasive tool for removing material from a workpiece by contact and relative motion between working surfaces of said tool and an operative face of the workpiece in a direction to produce an elongate groove in said workpiece, said tool comprising:

a base having a base surface and a working direction defining a direction for relative motion of the operative face of the workpiece and the working surfaces of said base;

a first elongate ramp aligned with said base surface and rising in said working direction defining a ramp surface as a continuum progressively to a ramp top surface uniformly spaced from said base surface; and

abrasive particles on and extending upwardly from said ramp surface, said particles defining ramp and top working surfaces.

2. The abrasive tool of claim 1 including abrasive particles on and extending upwardly from said base to define a base working surface wherein abrasive particles on said ramp top are displaced from abrasive particles on said base surface by the depth of said elongate groove.

3. The abrasive tool of claim 2 wherein said abrasive particles are formed into a plurality of abrasive elements that define the working surfaces.

4. The abrasive tool of claim 1 adapted to produce a workpiece that includes a plurality of side-by-side grooves wherein said abrasive particles are arranged on said ramp surface and said top surface in a plurality of generally parallel groove cutting patterns, each corresponding to a groove in the workpiece.

5. The abrasive tool of claim 4 wherein said abrasive particles are formed into a plurality of abrasive elements that define the working surfaces.

6. The abrasive tool of claim 5 adapted for use with a driving belt workpiece with multiple parallel grooves, wherein the base includes a plurality of ramps, each corresponding to one of the grooves.

7. The abrasive tool of claim 6 wherein each ramp has a ramp cross section corresponding to the first elongate ramp.

8. An abrasive tool for removing material from a workpiece by contact and relative motion between working surfaces of said tool and an operative face of the workpiece in a working direction to produce an elongate groove in said workpiece, said tool comprising:

a cylindrical base having a cylindrical base surface and a central axis about which it can be rotated in a working direction for relative motion of said base surface and said operative face;

a first elongate ramp defining a surface aligned with said base surface, having a sloping surface of increasing radius in said working direction over an angular sector of said base and a cylindrical top surface as a continuum spaced from said base surface; and,

abrasive particles on and extending upwardly from said sloping surface and said top surface, said particles defining said working surfaces.

9. The abrasive tool of claim 8 including abrasive particles on and extending upwardly from said base to define a base working surface, abrasive particles on said top surface being displaced from abrasive particles on said base surface by the depth of said elongate groove.

10. The abrasive tool of claim 9 wherein said abrasive particles are formed into a plurality of abrasive elements that define the working surfaces.

11. The abrasive tool of claim 8 adapted to produce a workpiece that includes a plurality of side-by-side grooves wherein said abrasive elements are arranged on said ramp surface and said top surface in a plurality of generally parallel groove cutting patterns, each corresponding to a groove in the workpiece.

12. The abrasive tool of claim 11 wherein said abrasive particles are formed into a plurality of abrasive elements that define the working surfaces.

13. The abrasive tool of claim 12 adapted for use with a driving belt workpiece with multiple parallel grooves, wherein the base includes at least a second ramp, each of said ramps corresponding to one of the grooves.

14. The abrasive tool of claim 13 wherein each ramp has a cross section corresponding to the cross section of said first ramp.

15. The abrasive tool of claim 10 wherein said abrasive elements are generally conic and have an element axis and a distal working portion, said distal working portions defining the working surfaces, said elements comprising:

a plurality of particles disposed in a stacked configuration on said base surface with an apex spaced therefrom and a braze alloy fusing said particles together and to said surfaces to define the stacked configuration.

16. The abrasive tool of claim 15 wherein said particles are magnetically responsive.

17. The abrasive tool of claim 16 wherein said particles are coated with cobalt.

18. The abrasive tool of claim 15 including a first ramp and at least a second ramp, the angular sectors thereof being aligned with a single plane normal to said central axis.

19. The abrasive tool of claim 18 wherein said particles have a size in the range of about 200 to about 325 mesh.

20. The abrasive tool of claim 19 wherein abrasive elements are disposed on said base surface and are dressed to define said working surfaces of the base.

21. The abrasive tool of claim 10 wherein a flange extends radially outward beyond said cylindrical base surface at each axially spaced end portion thereof and each flange defines an inner annular radial surface, and wherein abrasive elements are secured to and extend inwardly from said annular surfaces to define an axial space therebetween corresponding to the width for said workpiece.

22. The abrasive tool of claim 20 wherein a flange extends radially outward beyond said cylindrical base surface at each axially spaced end portion thereof and each flange defines an inner annular radial surface, and wherein abrasive elements are secured to and extend inwardly from said annular surfaces to define an axial space therebetween corresponding to a precise width for said workpiece.

23. A method of manufacturing an abrasive tool for grinding a workpiece by contact and relative motion between a working surface of said tool and an operative face of

the workpiece in a working direction to produce a profile comprising an elongate groove in the operative face, said method comprising:

providing a tool blank having an outer surface and a working direction for relative motion of the workpiece and said tool when operating on the workpiece;

removing a portion of said blank progressively to define a ramp having a ramp surface as a continuum progressively from a base surface having a base radius to said outer surface; and

securing abrasive particles in a groove cutting pattern on said ramp surface.

24. The method of claim 23 including the step of forming said abrasive particles into a plurality of abrasive elements that define said groove cutting pattern.

25. The method of claim 24 including the step of securing abrasive elements to said base surface.

26. The method of claim 25 including the step of dressing the abrasive elements on said base surface and said ramp surface.

27. The method of claim 24 wherein the step of removing a portion of said blank provides a radially extending flange at each axial end of said blank in addition to said ramp surface and including the further steps of securing abrasive elements to the inner radial annular surfaces of said flanges to comprise flange elements; and dressing said flange elements to define flange working surfaces.

28. The method of claim 25 wherein the step of removing a portion of said blank provides a radially extending flange at each axial end of said blank in addition to said ramp surface and including the further steps of securing said elements to the inner radial annular surfaces of said flanges to comprise flange elements; and dressing said flange elements to define flange working surfaces.

29. A method of removing material from an elongate non-metallic workpiece to produce an operative face with a tapered groove, a back face and opposed sides connecting said faces, said method comprising the steps of:

providing a supporting anvil adapted to support the back face of the workpiece and to move the workpiece longitudinally in a workpiece direction aligned with said groove;

providing an abrasive tool having a longitudinal working surface spaced from said anvil and adapted to engage said operative face and move in a working direction opposite

the workpiece direction, said working surface having a base surface and an elongate ramp surface aligned with said groove, abrasive particles in a pattern on said ramp surface having a maximum width portion corresponding to the width of said groove and a narrowing continuum progressively in the working direction to an apex portion;

providing relative longitudinal motion between said anvil and said tool in the working direction; and

reducing the space between said anvil and said working surface whereby said pattern of abrasive particles at said maximum width engages said workpiece followed by successively narrower portions of the pattern engaging the workpiece until the working face is completely formed.

30. The method of claim 29 wherein said workpiece is of a pliant material.

31. The method of claim 29 adapted for processing a workpiece that includes a plurality of side-by-side grooves wherein said tool includes a plurality of patterns corresponding to the grooves in the workpiece.

32. The method of claim 29 adapted for processing a driving belt workpiece with multiple parallel grooves, wherein said tool includes a plurality of patterns corresponding to the grooves.

33. The method of claim 32 adapted for processing a driving belt having reinforcing cords adjacent the back face thereof.

34. A method of removing material from an elongate non-metallic workpiece to produce an operative face with a tapered groove, a back face and opposed sides connecting said faces, said method comprising the steps of:

providing a cylindrical supporting anvil having a central axis about which it can be rotated and a cylindrical surface adapted to support the back face of the workpiece and to move the workpiece circumferentially in a workpiece direction aligned with said groove;

providing a cylindrical abrasive tool having a central axis about which it can be rotated and a cylindrical working surface spaced from said anvil and adapted to engage said operative face and move in a working direction opposite the workpiece direction, said working surface having a base surface and an elongate ramp surface aligned with said groove, abrasive particles in a pattern on said ramp surface having a maximum width portion corresponding to the width of said groove and a narrowing continuum progressively in the working direction to an apex portion;

rotating said anvil at a relatively slow rate and said tool at a relatively high rate to provide relative motion therebetween in the working direction; and

reducing the space between said anvil and said working surface whereby said pattern of abrasive particles at said maximum width engages said workpiece followed by successively narrower portions of the pattern engaging the workpiece until the working face is completely formed.

35. The abrasive tool of claim 19 wherein the abrasive elements are dressed to define said working surfaces of the base.

36. The abrasive tool of claim 20 wherein the elements have a maximum diameter significantly less than the minimum axial dimension of the top surface of said ramps, said ramps defining first edges axially aligned and second edges axially aligned, and the elements on said first ramp surface aligned along its first edge and the elements of said second ramp surface aligned along its second edge.

37. The abrasive tool of claim 35 wherein the elements have a maximum diameter significantly less than the minimum axial dimension of the top surface of said ramps, said ramps defining first edges axially aligned and second edges axially aligned, and the elements on said first ramp surface aligned along its first edge and the elements of said second ramp being aligned along its second edge.

38. The abrasive tool of claim 14 wherein the elements have a maximum diameter significantly less than the minimum axial dimension of the top surface of said ramps, said ramps defining first edges and second edges, and the elements on said first ramp aligned along its first edge and the elements of said second ramp being aligned along its second edge.